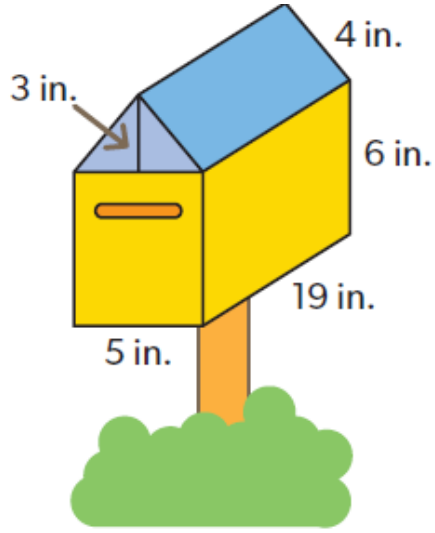
Surface Area and Volume of Composite Solids

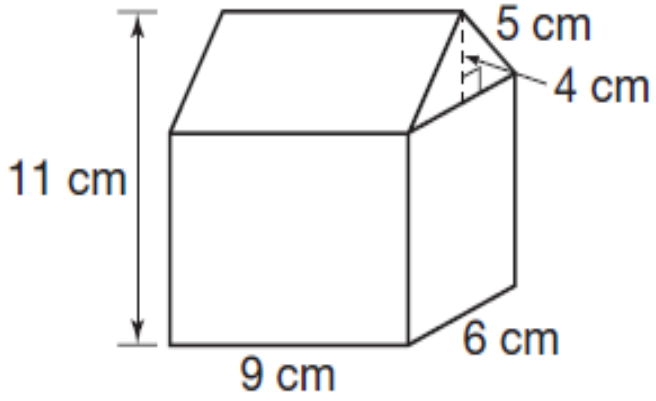
Accelerated



1) Oliver built a mailbox and wants to know exactly how much it can hold. What is the total volume of the mailbox?

Volume of triangular prism V= Bh = ½(bh)h	
Volume of a rectangular prism V= Bh = (l x w)h	
Total Volume of the birdhouse: V= ½(bh)h + (l x w)h	

2) Students in an art class are using wooden blocks to create a model of a neighborhood. They will paint each block to make a model of a building. The model is shown below. How many square centimeters of the surface will they paint.



Surface Area of triangular prism	The area of all the faces <u>that need to be painted.</u> The bottom is considered to be an exposed face.
How many rectangles on the outside of the shape altogether? SA of the rectangles:	
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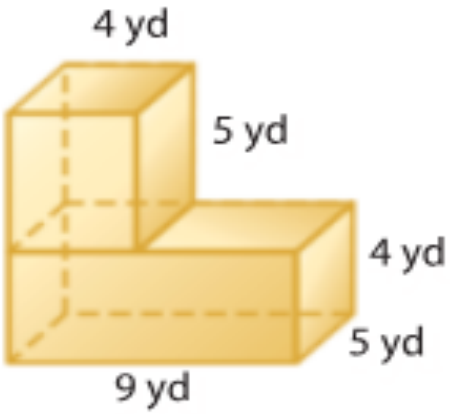
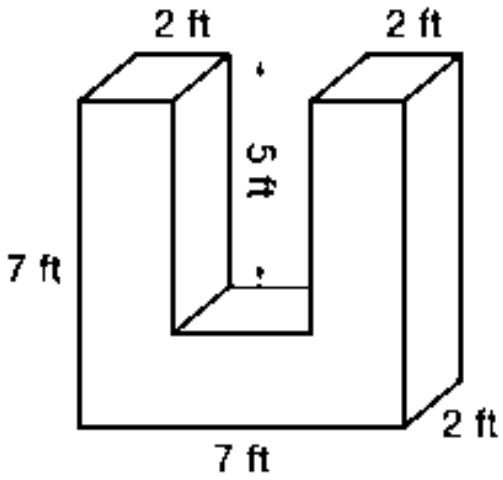
Total Surface Area of the exposed faces.	

3) Find the volume of the solid below.



Volume of a rectangular prism V= Bh	
Volume of a rectangular prism V= Bh	
Total Volume of the joined boxes:	

4)

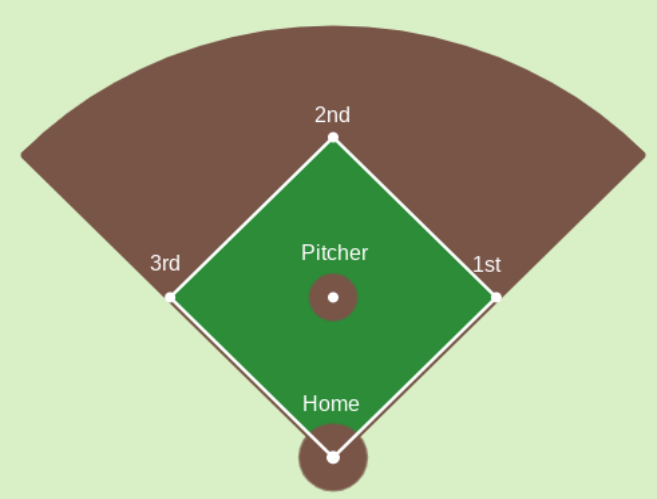


Mr. Jamison bought an entertainment center shown on the left. What is the volume of his new entertainment center?

Divide the compound figure in any way you can to solve this problem. There may be more than one way to divide the complex polyhedron but there is only one correct answer.

Volume of a rectangular prism	
Volume of a rectangular prism	
Volume of a rectangular prism	
Total Volume of the joined boxes:	

5) This is a complex area problem. You are now working in 2-dimensional space.



This baseball diamond is made up of composite shapes. To determine the amount of grass needed the groundskeepers need to subtract the pitcher's mound (9 ft radius) and a portion of the batter's circle (13 ft radius) from the square. Each side of the grass square is 90 ft. The outfield does not have grass.

Calculate how many square feet of grass are in this field.

Inside of baseball diamond (square area)	
Pitcher's mound (area of a circle)	
¼ of the Batter's Circle (area of a circle)	
Total remaining area:	